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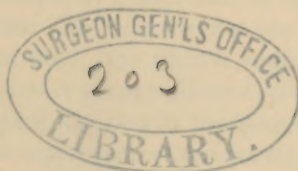
AND

OBSERVATIONS ON HIP DISEASE,

BY

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DIAGNOSIS OF SPINAL DISEASE.

BY THOS. P. GRANT, M. D.

The difficulty of differential diagnosis in spinal disease in its earlier stages not unfrequently perplexes the most experienced practitioner. It is a common thing to hear persons, and sometimes even medical men, say there can be no disease of the spine, because there is no pain or tenderness along the spinal column. An absence of pain at the seat of the disease is so characteristic that Dr. Chas. F. Taylor, a practitioner of large experience in this and kindred diseases, says, "*There never is any pain in the back in spinal disease.*" But in point of fact both pain and tenderness have been found in some well-marked cases of Kyphosis. Both the rational and the physical symptoms of Pott's disease of the spine are so characteristic and generally so well marked as to enable a careful observer to detect them, and pronounce with almost unerring certainty upon the character of the disease, even the absence of angular curvature. Among the earliest rational symptoms is a listless, anxious expression of countenance, notable at first only at intervals and generally after exercise or some sudden jar. As the disease progresses a sad, careworn, melancholy expression becomes habitual; the patient is quiet, lies or lounges around, and will not join in the sports of his companions, or does so but for short intervals, and complains of weariness and perhaps of headache, slight colic, or pain in the side or chest, or pain in the thighs. If a child, he will be inclined to lie across his mother's lap or a chair, or rest his elbows; and if the point of attack is in the cervical or upper dorsal vertebræ, will be inclined to rest his head on his hands. The digestion is usually impaired, the bowels irregular, and the urine charged with urates.

If the seat of disease is in the lower dorsal or lumbar vertebræ, the pain will be most felt in the hypogastric or iliac regions, and

may be mistaken for *colic*. If it be in the cervical or upper dorsal vertebræ, there will be sharp intercostal pains.

The action of the heart is usually quick and irregular, and as the disease progresses becomes irritable. This disturbance, together with the characteristic intercostal pains, often causes an error in the diagnosis, and cardiac trouble of a serious character is apprehended. A half-suppressed sigh and an occasional catching of the breath during respiration may be often noticed. The sleep becomes uneasy and is often accompanied with more or less moaning.

Among the first physical symptoms the observing practitioner will notice is a great caution in moving about. Sometimes the toes are adducted and the knees bent. In picking up any object the patient will flex the knees and thighs rather than bend the back, taking care to steady himself with one hand. He walks with the head and shoulders thrown back or to one side in a stiff, awkward manner, and with a cat-like step.

The clothing being removed and the patient told to stand erect, there is generally more or less lateral curvature. *This lateral curvature almost invariably precedes the angular curvature.* The abdominal walls will usually be found to be relaxed, and the adductor muscles of one or both thighs contracted. The patient will soon become fatigued in standing, and complains of pains in the sides or chest as above mentioned.

This state of case may continue for some time without any visible change, and then the disease runs rapidly on, causing great constitutional prostration, carious destruction of the bone, generally a deformity, and sometimes paralysis and death.

Deformity usually appears as a slight projection of a single spinous process some time after the lateral curvature; this gradually enlarges, and unless relief is obtained an angular curvature is established. The symptoms are then so well marked that they can not be mistaken, unless the disease is situ-

ated in the cervical region. Here the upper compensating curve is immediately above the point of disease, and the head is thrown back or to one side. The trapezii, the splenii, the sternocleidomastoid muscles, and other posterior and lateral muscles of the neck are drawn so tense that they cover or hide the angle in the spinal column, and thus render the diagnosis more difficult and the exact seat of disease obscure; but the same careful walk and disposition to rest the head will be observed, and sometimes also a great difficulty in respiration and deglutition.

I call to mind a case brought to my father by Dr. D. W. Yandell, who was the first to diagnose cervical curvature. This child was anæmic beyond belief, and apparently about to die of inanition, yet her respirations could at times be heard all over the house. In most cases of cervical curvature a partial or a total paralysis of the extremities rapidly supervenes, due to a pressure of the diseased bones on the contents of the spinal canal. This fact has been disputed, but I am unable to discover the slightest ground for a reasonable doubt.*

Among patients with cervical curvature I have seen one case of paralysis of the upper extremities and five cases of paralysis of the lower extremities, and three cases in which both upper and lower extremities were paralyzed. In each case the paralysis was relieved by relieving the pressure on the spinal cord. In some of these cases the paralysis was complete, extending even to the nerves of sensation.

These are some of the principal characteristic symptoms of Pott's disease of the spine. They are often slight, and are seldom all seen in any one case; but attention to these characteristics will aid the practitioner in a differential diagnosis of this disease, and enable him to seek proper remedies before great deformity has supervened; but I have known one case in which all the usual symptoms were wanting, or so slight as to escape

observation, till after the disease had made considerable progress, and a projection as large as an egg had formed on the back, when the symptoms became acute and painful.

LOUISVILLE.

OBSERVATIONS ON HIP DISEASE.

BY THOS. P. GRANT, M. D.

Hip disease is one of the most painful as well as most treacherous diseases to which suffering humanity is heir. Its victims are found in almost every community, yet its approach is so insidious and deceptive that experienced practitioners are often baffled, and not unfrequently discover the true character of the disease only after it has made considerable progress, caused indescribable pain, and perhaps destroyed the articulation, leaving the patient a cripple for life. Nor are medical authorities altogether agreed as to the pathology of this disease. Some regard it a symptomatic and others as idiopathic, but all agree that in its immediate origin it may be traumatic. It is not necessarily dependent on any strumous taint, although children of a tuberculous, rheumatic, gouty, or syphilitic diathesis are more liable to be victims of this as of other osseous diseases. The best observers look to a traumatic injury as the immediate cause of its development. The injury may be so slight as to be forgotten by both the patient and its friends; but the inflammation excited goes on, it may be for weeks, before painful symptoms are developed and the disease has obtained a firm hold on its victim.

Hip disease is of most frequent occurrence between the ages of three and fourteen years, but I have seen one case in which it was well developed before the age of three months. This case, in the opinion of the accoucheur, was due to injury received at parturition. After the age of twenty-one years its development is rare; but I have known of two

* *Vide* Gross, Vol. II, page 202.

cases in the same family in which the disease was developed after the age of fifty years.

The progress of coxarum morbus is usually described by the best writers as marked by three stages. This division is purely arbitrary, and no one can determine the exact time when any "stage" begins or when it terminates. To this division some object as unphilosophical; but it is certainly convenient and sufficiently accurate to speak of the stages of the disease.

The first stage is so insidious in its approach that the symptoms are frequently thought unworthy of attention. The patient is often supposed to be troubled with "growing pain," or more frequently regarded as rheumatic, and is treated for rheumatism of the knee. There may be slight rigor or an attack of intermittent fever, and the patient is at times restless, perhaps lame or awkward in the use of one foot, and usually turns the toe in or out unnaturally, or drags the foot. After a time it starts and awakens from sleep. If asked the cause, it may be unable to give one; but as the disease advances will say its knee hurts, and often clutch the knee and make extension. During the day there does not seem to be much the matter, but the complexion is not good and the appetite is capricious. If the patient be of otherwise strong constitution, this state may continue for weeks and may be for months. The pain will generally be confined to the knee, but it is sometimes referred to the crest of ileum or sacro-lumbar regions, and Gross mentions a case in which the pain seemed to be located in the tendo-achillis. It may be more general over the surface of the thigh, but this is rare. The pain is generally of an intermittent character, worse on some days or at some time in the day. This pain in the knee is due to an irritation of the obturator nerve, which sends a branch to the hip and another to the knee. There is usually no pain in the hip unless from external injury, and not always then; oftener in the knee. The affected limb gradually

becomes atrophied. There is sometimes pain on pressure behind the great trochanter, but this is of little value as a diagnostic point.

As the second stage approaches the gluto-femoral crease on the affected side lessens and the buttock flattens. The toe is either adducted or everted, according to the location of the inflammation. The sleep will be much more disturbed, the patient frequently starting and crying out with intense pain, usually in the knee. Hectic fever is not unusual. The patient will be little inclined to walk, and will often glide along on the well foot by an oscillating motion of the heel and toe, flexing the thigh, and dragging the foot of the affected limb. The gluto-femoral crease will by this time be almost if not entirely obliterated, the buttock more flattened, the hip and thigh swollen, and the distance from median fissure to great trochanter will be found greater on the affected side.

The point of inflammation is as yet small. If it be on the upper and front part of the head of the femur, the toe will be turned out and the leg will appear to be longer than its fellow. To diagnose this form of disease, push on the thigh, rotating it inward. This is best done by grasping the thigh just above the knee with one hand and the foot with the other, and push or rotate as is desired. The more common form is where the inflammation is on the upper and back part of the head of the femur. This is diagnosed by pushing up on the limb and rotating the thigh outward. These are the most common forms of the disease, but I have seen cases in which the inflammation began on the lower part of the head of the femur, both front and back, the limb being forced up and shortened from the beginning of the disease. These forms of the disease are diagnosed by pulling down on the thigh, turning it in or out. These manipulations are to be made while the patient is lying down, and with the greatest care, as they bring the inflamed point in

contact with acetabulum, and cause acute pain.

A case of this kind was brought to us which had been treated by different practitioners, some of whom, after careful, but incomplete examination, failed to diagnose hip disease, for the reason that it produced no pain, but even gave the relief to push the thigh up. This method of diagnosis is usually thought as the most certain and satisfactory, but for this and similar cases it is obviously faulty. As a matter of diagnostic interest I would state that the exciting cause in this case was a fall, head downward, in which the great trochanter was struck on its upper surface.

As to the structural point of attack, there are many theories, and much has been written in their support. Sir Benj. Brodie thought the disease commenced in the articular cartilage; Aston Key, in the ligamentum teres; Holmes Coote, in the cancellous structure of the head of the femur; others, in the synovial membrane. There seems to me to be evidence that the primary inflammation is in the periosteum covering the head of the femur, and not in the bone or ligament; but in a short time the contiguous structures become involved, and hence a post mortem may lead to an erroneous conclusion as to the point of attack.

As the disease progresses the acetabulum becomes filled with plastic lymph that is thrown out to relieve the inflamed point. This more than the swelling accounts for the increased distance from median fissure to great trochanter on the diseased side. The thigh is now persistently flexed by day and more so by night, and the knee bent and usually laid over the other. This is instinctively done to relieve the strain on the flexor and abductor muscles of the thigh, which are often hard and tense; especially is this true of the gracilis muscle, which draws on the integument covering pubic re-

gions, sometimes in female patients pulling the labia on the affected side down.

The third stage of the disease is so well marked that there can be no mistake in diagnosis. In this stage pus is generally present, and although it does not always form an open abscess, can be detected by palpation. When an abscess is formed it may open behind the great trochanter, directly over Poupart's ligament, on the thigh, in the rectum, bladder, or vagina. The head of the femur is more or less necrosed, the capsular ligament and ligamentum teres being destroyed by disease. The femur is pressed out of the acetabulum by the accumulated lymph. The powerful muscles of the thigh draw the femur up, and usually lodge the head in the iliac fossa, although it may lodge in the sciatic notch or immediately under the crest of the ileum, and rarely in the obturator foramen. I have seen cases where the head of the femur was forced above the crest of the ileum. In these cases there is a great shortening and adduction of the limb, and the adjacent integument is drawn up, distorting the contiguous parts.

The prognosis of this disease under proper treatment is favorable. The pain may always be relieved, and a permanent and radical cure may be expected, if the articulation is not already destroyed. In this case, by proper appliances, a good, serviceable callos joint may be formed with very little shortening of limb. Even where the head of the femur has been drawn up above the crest of the ilium it may be brought down, the lateral motion restored, and a serviceable joint formed. Sometimes, if neglected, the result is a prominent bony ankylosis of the hip, with so much adduction of the thigh and obliquity of the pelvis as seriously to interfere with some of nature's functions. The treatment of cases of a syphilitic diathesis is not always satisfactory.

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